## Digital Communications Technology Branch (RCD)

Conducts research and technology development of digital communications, navigation, and surveillance technologies required for aeronautical and space systems. Emphasis on increasing information throughput, improving bandwidth and power efficiency, minimizing hardware implementation complexity, reducing power consumption, and maximizing performance and reliability for aviation and space users requiring integrated communications, navigation, and surveillance (CNS) systems. Specific technologies include software defined radios; low power, reconfigurable transceivers; multi-function, multi-mode digital avionics; network interface controllers, hubs, and routers for space; bandwidth- and power-efficient digital modems; signal processing; and integrated microelectronic or optoelectronic devices. State-of-the-art computer simulation tools, field programmable gate array (FPGA) design, proof-of-concept fabrication, and experimental testing (ground or flight) are used to perform these efforts.